

REMARKS

In view of the above amendments and the following remarks, reconsideration of the outstanding office action is respectfully requested. Pursuant to 37 CFR § 1.121, attached as Appendix A is a Version With Markings to Show Changes Made.

Amongst the changes made to the claims was addition of the fragments spanning amino acids 76 and 168, 105 and 168, and 150 and 179. Support for these limitations is found in Tables 2 and 4-6 of the present application.

The objection to the May 9, 2002, Oath/Declaration for defectiveness is respectfully traversed.

As suggested by the U.S. Patent and Trademark Office ("USPTO"), applicants submit herewith a another Combined Declaration for Patent Application and Power of Attorney newly executed and dated by inventor Fan. The USPTO further alleges that the May 9, 2002, Oath/Declaration is defective, because the record does not indicate a request of change of name for inventor Jennifer Stephens (formerly "Jennifer Niggemeyer") or the reason for the name change. Applicants respectfully disagree. On May 6, 2002, applicants submitted a Petition for Change of Inventor's Name Under 37 C.F.R. § 1.182 and a Declaration of Jennifer Stephens (copies enclosed) providing the reason for the name change. Thus, the above objection should be withdrawn.

The objection to the February 4, 2000, Information Disclosure Statement is respectfully traversed.

The USPTO has taken the position that references 1-11, 13, 15-33, 35-105, and 108-163 listed in the February 4, 2000, PTO-1449 Form were not provided. Based on applicants' internal procedures and docketing information, applicants are certain that the allegedly missing references were, indeed, filed with the February 4, 2000, PTO-1449 Form. Nevertheless, as requested, applicants are submitting a new information disclosure statement and PTO-1449 Form, together with copies of references 1-11, 13, 15-33, 35-105, and 108-163 (as identified in the February 4, 2000, PTO-1449 Form). Applicants respectfully request that these references be considered. It is submitted that no additional fee is required, because the above-identified references were previously cited.

The rejection of claims 1-9 and 30-38 under 35 U.S.C. § 112 (2nd para.) for indefiniteness is respectfully traversed.

Applicants disagree that the recitation of "controlling insects" in claim 1 renders the rejected claims indefinite. The specification clearly defines the meaning of this

term at page 39, lines 23-31. Likewise, applicants respectfully submit that claims 30, 33, and 36 are not indefinite for their recitation of the term "applying." How one applies the fragments of the present invention is readily understandable and is fully explained on pages 40-41 of the specification. Thus, the indefiniteness rejection is improper and should be withdrawn.

The rejection of claims 1-9 and 36-38 under 35 U.S.C. § 102(a) as anticipated by WO 98/37752 to Zitter et al. ("Zitter '752") is respectfully traversed.

Zitter '752 teaches a method of controlling insects on plants by applying a hypersensitive response elicitor polypeptide or protein (or fragments thereof generally) in non-infectious form to plants. Since Zitter '752 does not disclose using the specific fragments set forth in claim 1, the anticipation rejection based on this reference should be withdrawn.

The rejection of claims 1-9 and 30-33 under 35 U.S.C. § 102(a) as anticipated by WO 96/39802 to Wei et al. ("Wei '802") is respectfully traversed.

Wei '802 teaches a method of imparting pathogen resistance to plants by applying a hypersensitive response elicitor polypeptide or protein (or fragments thereof generally) in non-infectious form to plants. Since Wei '802 does not disclose using the specific fragments set forth in claim 1, the anticipation rejection based on this reference should be withdrawn.

The rejection of claims 1-3, 8, and 30-32 under 35 U.S.C. § 102(e) as anticipated by U.S. Patent No. 5,859,324 to Wei et al. ("Wei '324") is respectfully traversed.

Wei '324 is the U.S. counterpart of Wei '802 (described above). Since Wei '324 does not disclose using the specific fragments set forth in claim 1, the anticipation rejection based on this reference should be withdrawn.

The provisional rejection of claims 1-9 and 30-38 under the judicially created doctrine of obviousness-type double patenting as unpatentable over claims 1-7 and 26-34 of copending U.S. Patent Application Serial No. 09/086,118 to Laby et al. ("Laby '118") is respectfully traversed in view of the Terminal Disclaimer to Obviate a Provisional Double Patenting Rejection Over a Pending Second Patent Application, submitted herewith.

The rejection of claims 36-38 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 22-27 of U.S. Patent No. 5,977,060 to Zitter et al. ("Zitter '060") is respectfully traversed.

Claims 1 and 22-27 of Zitter '060 are directed to a method of insect control comprising applying a hypersensitive response elicitor polypeptide or protein to a plant or plant seed under conditions effective to control insects on the plant or plants grown from the plant seed. However, these claims of Zitter '060 do not recite the specific fragments required by claims 36-38 of the present application. Therefore, the obviousness-type double patenting rejection based on Zitter '060 should be withdrawn.

The rejection of claims 33-35 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, and 19-25 of U.S. Patent No. 6,277,814 to Qiu et al. ("Qiu '814") is respectfully traversed.

Claims 1, 2, and 19-25 of Qiu '814 are directed to a method of enhancing plant growth comprising applying a hypersensitive response elicitor polypeptide or protein to a plant or plant seed under conditions effective to enhance plant growth. However, these claims of Qiu '814 do not recite the specific fragments required by claims 33-35 of the present application. Therefore, the obviousness-type double patenting rejection based on Qiu '814 should be withdrawn.

The rejection of claims 30-32 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, and 19-23 of U.S. Patent No. 6,235,974 to Qiu et al. ("Qiu '974") is respectfully traversed in view of the above amendments.

Claims 1, 2, and 19-23 of Qiu '974 are directed to a method of producing seeds which impart pathogen resistance to plants grown from the seed by applying a hypersensitive response elicitor polypeptide or protein to a plant or plant seed under conditions effective to impart pathogen resistance to plants grown from the seeds. However, these claims of Qiu '974 do not recite the specific fragments required by claims 30-32 of the present application. Therefore, the obviousness-type double patenting rejection based on Qiu '974 should be withdrawn.

In view of all of the foregoing, applicants submit that this case is in condition for allowance and such allowance is earnestly solicited.

Respectfully submitted,

Date: January 27, 2003



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Appendix A
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In reference to the amendments made herein to the specification and to claims 1, 5, 7, 9, 30, 32, 33, 35, 36, and 38, additions appear as underlined text, while deletions appear as bracketed text, as indicated below:

In the Specification:

Please replace the paragraph beginning at page 32, line 27, and ending at page 33, line 5, as amended in the Amendment filed May 6, 2002, in response to the Office Action mailed November 6, 2001, with the following replacement paragraph:

--An example of suitable fragments of a hypersensitive response elicitor which do not elicit a hypersensitive response include fragments of the *Erwinia amylovora* hypersensitive response elicitor. Suitable fragments include a C-terminal fragment of the amino acid sequence of SEQ ID NO: 23, an N-terminal fragment of the amino acid sequence of SEQ ID NO: 23, or an internal fragment of the amino acid sequence of SEQ ID NO: 23. The C-terminal fragment of the amino acid sequence of SEQ ID NO: 23 can span the following amino acids of SEQ ID NO: 23: 169 and 403, 210 and 403, 267 and 403, or 343 and 403. The internal fragment of the amino acid sequence of SEQ ID NO: 23 can span the following amino acids of SEQ ID NO: 23: [105] 150 and 179, 137 and 166, 121 and 150, 76 and 168, 105 and 168, or 137 and 156. Other suitable fragments can be identified in accordance with the present invention.--

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In The Claims:

Please amend claims 1, 5, 7, 9, 30, 32, 33, 35, 36, and 38 as follows:

1. (Twice Amended) An isolated fragment of a hypersensitive response elicitor protein or polypeptide, wherein said fragment is selected from the group consisting of a C-terminal fragment of the amino acid sequence of SEQ ID NO: 23 spanning the following amino acids of SEQ ID NO: 23: 169 and 403, 210 and 403, 267 and 403, or 343 and 403; an internal fragment of the amino acid sequence of SEQ ID NO: 23 spanning the following amino acids of SEQ ID NO: 23: 150 and 179, 137 and 166, 121 and 150, 76 and 168, 105 and 168, or 137 and 156; and a fragment of the amino acid sequence of SEQ ID NO: 31 spanning amino acids 190 and 294 of SEQ ID NO: 31 and does not elicit a hypersensitive response but has other activity in plants, said other activity comprising imparting disease resistance, enhancing plant growth, [and/or] controlling insects, or a combination of these other activities.

5. (Twice Amended) An isolated fragment according to claim [4] 1, wherein the fragment is a C-terminal fragment of the amino acid sequence of SEQ ID NO: 23 spanning the following amino acids of SEQ ID NO: 23: 169 and 403, 210 and 403, 267 and 403, or 343 and 403.

7. (Twice Amended) An isolated fragment according to claim [4] 1, wherein the fragment is an internal fragment of the amino acid sequence of SEQ ID NO: 23 spanning the following amino acids of SEQ ID NO: 23: [105] 150 and 179, 137 and 166, 121 and 150, 76 and 168, 105 and 168, or 137 and 156.

9. (Twice Amended) An isolated fragment according to claim [8] 1, wherein the fragment contains amino acids 190 to 294 of SEQ ID NO: 31.

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30. (Twice Amended) A method of imparting disease resistance to plants comprising:

applying a fragment of a hypersensitive response elicitor protein or polypeptide according to claim 1 in a non-infectious form to a plant or plant seed under conditions effective to impart disease resistance to the plant or a plant grown from the plant seed, wherein the fragment imparts disease resistance but does not elicit a hypersensitive response.

32. (Amended) A method according to claim 30 [wherein plant seeds are treated during said applying, said method] further comprising:

planting the seeds treated with the fragment of the hypersensitive response elicitor in natural or artificial soil and
propagating plants from the seeds planted in the soil.

33. (Twice Amended) A method of enhancing plant growth comprising:
applying a fragment of a hypersensitive response elicitor protein or polypeptide according to claim 1 in a non-infectious form to a plant or plant seed under conditions effective to enhance plant growth of the plant or of a plant grown from the plant seed, wherein the fragment enhances plant growth but does not elicit a hypersensitive response.

35. (Amended) A method according to claim 33[, wherein plant seeds are treated during said applying, said method] further comprising:

planting the seeds treated with the fragment of the hypersensitive response elicitor in natural or artificial soil and
propagating plants from the seeds planted in the soil.

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36. (Twice Amended) A method of insect control for plants comprising:
applying a fragment of a hypersensitive response elicitor protein or
polypeptide according to claim 1 in a non-infectious form to a plant or plant seed under
conditions effective to control insects, wherein the fragment controls insects but does not
elicit a hypersensitive response.

38. (Amended) A method according to claim 36[, wherein plant seeds are
treated during said applying, said method] further comprising:
planting the seeds treated with the fragment of the hypersensitive response
elicitor in natural or artificial soil and
propagating plants from the seeds planted in the soil.